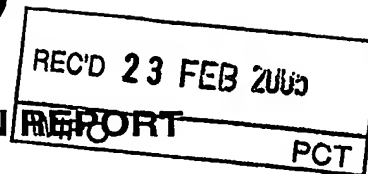


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



02 JUN 2005

Applicant's or agent's file reference PWO-809	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/CA 02/01943	International filing date (day/month/year) 06.12.2002	Priority date (day/month/year) 06.12.2002
International Patent Classification (IPC) or both national classification and IPC H01Q1/24		
Applicant RESEARCH IN MOTION LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 01.12.2003	Date of completion of this report 22.02.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Kruck, P Telephone No. +49 89 2399-7129

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/CA 02/01943**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-24 as originally filed

Claims, Numbers

1-27 as originally filed

Drawings, Sheets

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-3,5,9-11,14,15,22
Inventive step (IS)	Yes: Claims	
	No: Claims	4,6-8,12,13,16-21,23-27
Industrial applicability (IA)	Yes: Claims	1-27
	No: Claims	

2. Citations and explanations

see separate sheet

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Referring to Item V: Reasoned statement under Rule 66.2 (a) (ii) PCT with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents; the numbering will be adhered to in the rest of the procedure:

D1=EP-A-1172885

D4=EP-A-1241733

D5=WO-A-0227862

D6=WO-A-0227859

D7=US-A-6157348

2. Clarity and Conciseness

The application does not comply with Article 6 PCT as to clarity and conciseness, the following points requiring attention:

- * Claims 1, 2, 3, 16, 22: These claims are drafted in such a way as to define the claimed subject matter in terms of the result to be achieved. Neither these claims, nor any other claim, nor the description specify all the technical features which are necessary to achieve simultaneous operation of certain slot structures in a set of frequency bands such as GSM and PCS. Similarly, it is not clear how a patch structure and a number of slot structures perform combined operation in a selected frequency band.
- * The various definitions of the invention given in the independent apparatus Claims 1, 16 and 22 are such that the claims as a whole are not sufficiently concise (Rule 6.4 (a) PCT).

3. Novelty

- 3.1 Insofar as it can be presently understood, the subject-matter of Claim 1 is not new (Article 33 (2) PCT). Document D4, which is considered the most relevant prior art on file, discloses, a multiple-band antenna comprising a first patch structure (D4, Fig. 2, 11, 12), a second patch structure electrically coupled to the first patch structure (D4, Fig. 2, 10), a first slot structure (D4, Fig. 1, 4) disposed between a first portion of the first patch structure and the second patch structure, and a second slot structure (D4, Fig. 1, 3) disposed between a second portion of the first patch structure and the second patch structure.

Hence, D4 discloses an antenna having all the features of Claim 1. Additionally, it is pointed out, that document D1 also anticipates the subject-matter of Claim 1 (D1, Fig. 1, Z2, Z1, F1-F5). Furthermore, the subject-matter of independent Claim 22 is not new, because D4 discloses a multi-mode wireless communication device

(D4, column 10, lines 34 - 44) comprising an antenna according to independent Claim 1.

- 3.2 The subject-matter of Claims 2, 3, 5, 9-11, 14, 15 does not meet the requirements of the PCT with respect to novelty (Article 33 (2) PCT). These claims do not seem to add any additional features which, in combination with the features of any claim to which they refer, go beyond the disclosure of D4 (see also Fig. 1, 3, 4; Fig. 2, 10-12; column 5, lines 51-55; column 6, lines 41-44; column 10, line 2, lines 23-25, line 43).

4. Inventive Step

- 4.1 The subject-matter of independent Claim 16 does not involve an inventive step (Article 33 (3) PCT). The subject-matter of this claim differs from the antenna disclosed in D4 only in that it comprises a mounting scheme with a first surface for mounting the patch structures and a second surface for mounting feeding and ground points, said second surface being opposite to and overlapping the first surface.

However, such a mounting scheme is well known in the field of built-in antennas for wireless communication devices (cf. D5, Fig. 3-5, 14, 40, 26, 28, 30). Thus, the skilled person would regard the inclusion of this feature in the antenna of D4 as a normal design option and would arrive at the subject-matter of Claim 16 without the exercise of inventive skill.

- 4.2 Further, dependent claims 4, 6-8, 12, 13, 17-19, 21, 23-27 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step. Their inclusion comes within the scope of customary design practice followed by a person skilled in the art. These features are as follows:

- * Claims 4, 6-8: Feeding and ground points overlapping with patch structures (cf. D6, Fig. 6b, 611, 612, 613; D5, Fig. 3-5, 14, 28, 30). Further and with reference to Claim 4, it is noted, that D1 discloses a multiple-band antenna with a feeding point coupled to the first patch structure (D1, Fig. 1, Z2, C1) and a ground point coupled to the second patch structure (D1, Fig. 1, Z1, S).
- * Claims 12, 13, 26: Tuning tabs for tuning the operating frequency (cf. D7, Fig. 1, 24; column 5, lines 10-11);
- * Claims 17-20: Mounting bores for positioning built-in antennas (cf. D6, Fig. 6c, 614, 635);
- * Claims 21, 23, 24: Mounting position of antenna element within wireless mobile communication device (cf. D6, Fig. 6, 630-632; D5, Fig. 1, Fig. 2);
- * Claims 25, 27: Operation of multiple-band antennas in wireless communication

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devices (cf. D4, column 10, lines 24, 25, 42).